Serial No.: 09/295,431 Inventors: Yoshimura et al.

Examining Attorney: Michael P. Mooney Attorney Docket No.: 25916-118 (6136-53461)

Confirmation No.: 7173

Respectfully submitted,

James Fox

Attorney for Applicant Registration No.: 38,455

COUDERT BROTHERS LLP 600 Beach Street, 3rd Floor San Francisco, CA 94109 Telephone: 415-409-2900 Telefacsimile: 415-409-7400

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MARKED-UP VERSION

IN THE CLAIMS:

Claim 1 has been amended as follows:

- 1. (Amended) A substrate having a optical and electrical interconnections, comprising:
- a first layer having a first polymeric waveguide[s] formed therein;
- a second layer having a second polymeric waveguide[s] formed therein:
- a first vertical optical coupler formed in said first layer and optically coupled to a first waveguide in said first layer;
- a second vertical optical coupler formed in said second layer and optically coupled to a second waveguide in said layer;

wherein said first optical coupler is positioned adjacent said second vertical optical coupler so that light may be coupled between said first and said second waveguides.

- 4. (Amended) The main substrate of Claim 1 further comprising:
- at least one additional layer having a third polymeric waveguide[s] formed therein;
- an additional vertical optical coupler formed in said at least one additional layer and optically coupled to a waveguide in said at least one additional layer:

wherein said layers are stacked face-to-face and are optically coupled by said vertical optical couplers.